NAME OF THE WORK: Improvements To Roads And Drains At Tanisandra Dasarahalli Saraipalya And Bharathnagar And Surrounding Area In Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Si No 109,110,111. Comprehensive Development And Improvements To Roads And Drains Rachenahalli And Surrounding Area In Ward No 6&7 Byatarayanapura Sub Division Package -2 (Old Annuxure-2) Go Sl No 12and 113

Fourth and Part Bill

Quality Control Reports

BOOK NO – 04

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2023-01-14-14** **Date: 09-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	07-02-23
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 IS 4031 Part 1 (RA 2021) DETERMINATION OF FINENESS BY DRY SIEVING. Clause 4.4 IS 4031 Part 2, (RA 2018) Determination of Fineness by Blaine Air Permeability IS 4031 Part 3, (RA 2019) Determination of Soundness, Clause 5, Clause 6 IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste. Clause 5 IS 4031 Part 5, (RA 2019) Determination of Initial & Final Setting Time. Clause 5 IS 4031 Part 11, (RA 2019)DETERMINATION OF DENSITY , Clause 6
Date of test	:	07-02-23
Environmental Conditions during test	:	Temperature: 26°C Humidity: 72%

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	Fineness by dry sieving (%)	1.75	–
2	Finess by Air permeablity method (m^2/kg,Min)	281.4	225m^2/kg, Min
3	Density (gm/cc)	3.14	–
4	Standard Consistency (%)	29.5%	Not specified
5	Initial Setting time	175 minutes	Not less than 30 minutes
6	Final Setting time	280 minutes	Not more than 600 minutes
7	Soundness (Le Chatelier's Method)	1.5mm	Not more than 10 mm

* The results obtained are satisfactory as per standard requirements.

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Technical Manager

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TEST REPORT OF PHYSICAL PROPERTIES OF CEMENT - 53 Grade

Lab ID	:	**CP-2023-01-14-14** **Date: 07-03-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	07-02-23
Sample Type	:	Birla Super 53grade
Reference to BIS codes	:	IS 269:2015 Ordinary Portland cement Specification , IS 4031 (Part 4,5):1988 , IS 4031 Part 4, (RA 2019) Determination of Consistency of Standard Cement Paste, Clause 5 IS 4031 Part 6, (RA 2019) Determination of Compressive Strength, Clause 6
Date of test	:	07-02-23
Environmental Conditions daring test	:	Temperature: 26°C Humidity: 72%

Compressive Strength

Sl.No.	Physical properties	Results	Requirement as per IS 269:2015
1	3 Days	29.0N/mm^2	Not less than 27 N/mm^2
2	7 Days	38.5N/mm^2	Not less than 37 N/mm^2
3	28 Days	57.5N/mm^2	Not less than 53 N/mm^2

* The results obtained are satisfactory as per standard requirements.

ಮೇಲಿನ ಅಧಿಕಾರಿಯವರು
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ಬೆಂಗಳೂರು, ಬೆಂಗಳೂರು-26

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TEST REPORT ON COARSE AGGREGATES

Lab ID	:	**CP-2023-01-14-14** **Date: 09-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	07-02-23
Sample Type	:	40mm down size coarse aggregate
Reference to BIS codes	:	IS: 383:2016 (Specification for Coarse and fine Aggregates) IS: 2386 :1963(Part - 1,3,4) RA2021 IS 2386 Part 1: Particle Size and Shape IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption IS 2386 Part 4: Mechanical Properties
Date of test	:	06-02-23

SIEVE ANALYSIS (PARTICLE SIZE DISTRIBUTION) OF 40MM DOWN COARSE AGGREGATE:

Total weight taken : 15000 grams

Sample No.	Sieve No.	Weight Retained in gms	Cumulative Weight Retained in gms	% Cumulative Weight Retained	% Passing	Required as per IS 383:2016
1	80 mm	0	0	0.0	100	100
2	40 mm	242	242	1.6	98.4	90-100
3	20 mm	5437	5679	37.9	62.1	30-70
4	10 mm	4339	10018	66.8	33.2	10-35
5	4.75 mm	4649	14667	97.8	2.2	0-5
6	Pan	333	15000	100.0	0	---

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TEST REPORT ON COARSE AGGREGATES

Lab ID : **CP-2023-01-14-14** **Date: 09-02-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS:383-2016
1	Flakiness Index(%)	11.2	Combined Flakiness & Elongation Index Shall not Exceed 40% for Uncrushed & Crushed Aggregate
2	Elongation Index(%)	11.3	
3	Specific Gravity	2.65	–
4	Bulk Density(Loose) (Kg/l)	1.49	–
5	Bulk Density(Compacted) (Kg/l)	1.52	–
6	Water Absorption(%)	0.20	–

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF FINE AGGREGATE

Lab ID : CP-2023-01-14-14 **Date: 08-02-23**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer's Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 07-02-23

Sample Type : Fine Aggregate

Reference to BIS codes : IS 383 : 2016 (Specification for Coarse and fine Aggregates)
IS: 2386 :1963(Part - 1, 3) RA2012
IS 2386 Part 1: Particle Size and Shape
IS 2386 Part 3: Specific gravity, Density, Voids,Water Absorption

Date of test : 06-02-23

Total weight taken : 1000 grams

Sl.no	Sieve Size	Weight Retained (gms)	Cumulative Weight Retained (gms)	% Cumulative Weight Retained	% Passing	Requirement as per IS 383:2016			
						Grading Zone I	Grading Zone II	Grading Zone III	Grading Zone IV
1	10 mm	0	0	0.0	100.0	100	100	100	100
2	4.75 mm	78	78	7.8	92.2	90-100	90-100	90-100	95-100
3	2.36 mm	65	143	14.3	85.7	60-95	75-100	85-100	95-100
4	1.18 mm	244	387	38.7	61.3	30-70	55-90	75-100	90-100
5	600 micron	215	602	60.2	39.8	15-34	35-59	60-79	80-100
6	300 micron	178	780	78.0	22.0	5-20	8-30	12-40	15-50
7	150 micron	141	921	92.1	7.9	0-10	0-10	0-10	0-15
8	Pan	79	1000	100.0	0.0	---	---	---	---

Result :The tested Sample Conforms to Grading Zone II

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TEST REPORT OF FINE AGGREGATE

Lab ID : **CP-2023-01-14-14** **Date: 08-02-23**

PHYSICAL PROPERTIES

Sl.no	Tests	Result	Requirements as per IS 383:2016
1	Water Absorption(%)	1.2	–
2	Specific Gravity	2.4	–
3	Material finer than 75 micron(%)	7.9	Uncrushed fine Aggregate Max 3%, Crushed Fine aggregate Max 15%, Mixed Fine aggregate Max 12%, Manufactured Fine aggregate Max 10%

* The results obtained are satisfactory as per standard requirements.

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ಬಿಬಿಎಂಪಿ, ಬೆಂಗಳೂರು-26

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	**CP-2023-01-14-14** **Date: 24/02/2023**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	20-02-23
Customer ID	:	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	24/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	24/02/2023	149.25 X 149.29 X 149.30	22282	8.659	562.7	25.3	25.3
2	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	24/02/2023	150.64 X 151.63 X 150.78	22842	8.487	601.8	26.3	
3	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	24/02/2023	149.20 X 150.80 X 151.87	22500	8.183	546.6	24.3	

* The results obtained are satisfactory as per standard requirements.

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ಪ್ರಯೋಗಾಲಯಗಳ ಉಪ ವಿಭಾಗ
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Technical Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2023-01-14-14 **Date: 17/03/2023**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer's Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 20-02-23

Customer ID : Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 17/03/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	17/03/2023	150.76 X 149.71 X 151.60	22571	8.472	763.0	33.8	33.3
2	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	17/03/2023	150.88 X 151.38 X 151.90	22840	8.709	752.7	33.0	
3	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	17/03/2023	151.32 X 151.71 X 149.06	22957	8.716	760.0	33.1	

* The results obtained are satisfactory as per standard requirements.

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Technical Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2023-01-14-14 Date: 24/02/2023

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura. Bangalore-560013

Customer's Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 20-02-23

Customer ID : Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 7 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 24/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	24/02/2023	149.82 X 150.60 X 149.10	22563	8.276	584.2	25.9	
2	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	24/02/2023	151.17 X 150.99 X 150.51	22824	8.775	600.6	26.3	25.5
3	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	24/02/2023	150.57 X 151.84 X 149.65	22862	8.804	554.4	24.3	

* The results obtained are satisfactory as per standard requirements.

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R RUDRAPRASAD
Authorized Signatory
Technical Manager

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-26

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 17/03/2023

Lab ID	:	CP-2023-01-14-14
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	20-02-23
Customer ID	:	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	17/03/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	17/03/2023	149.47 X 151.01 X 151.39	22572	8.587	745.3	33.0	32.9
2	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	17/03/2023	150.66 X 150.30 X 149.98	22645	8.655	732.3	32.3	
3	Cement Concrete Pavement - Ward No 06, 6th cross thanisandra village beside vakhan nilya	M30	17/02/2023	17/03/2023	149.79 X 150.17 X 151.26	22494	8.387	752.8	33.5	

* The results obtained are satisfactory as per standard requirements.

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರ
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

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Technical Manager

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Format No CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	CP-2023-01-14-14 Date: 28/02/2023
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Customer ID	:	Cement Concrete Pavement - Ward No 07, D.pillapa layout-sri guru #05 house road
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	28/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	150.54 X 149.58 X 151.21	22516	8.473	577.1	25.6	25.4
2	Cement Concrete Pavement - Ward No 07, D.pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	150.83 X 149.58 X 149.00	22560	8.313	588.0	26.1	
3	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	150.57 X 150.29 X 151.37	22629	8.627	556.8	24.6	

* The results obtained are satisfactory as per standard requirements

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-24

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Technical Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Date: 21/03/2023

Lab ID	:	CP-2023-01-14-14
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Customer ID	:	Cement Concrete Pavement - Ward No 07, D.pillapa layout-sri guru #05 house road
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 28 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	21/03/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	150.23 X 151.59 X 149.38	22774	8.627	759.1	33.3	33.0
2	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	151.75 X 150.90 X 150.44	22899	8.586	742.2	32.4	
3	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	151.17 X 151.81 X 149.96	22949	8.381	761.7	33.2	

* The results obtained are satisfactory as per standard requirements

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-26

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	CP-2023-01-14-14 **Date: 28/02/2023**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Customer ID	:	Cement Concrete Pavement - Ward No 07, D.pillapa layout-sri guru #05 house road
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	28/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	149.20 X 151.90 X 150.19	22664	8.191	580.2	25.6	25.6
2	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	151.31 X 150.19 X 151.44	22725	8.706	612.8	27.0	
3	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	150.38 X 149.13 X 150.36	22425	8.984	545.3	24.3	

* The results obtained are satisfactory as per standard requirements

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : CP-2023-01-14-14 **Date: 21/03/2023**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer's Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 24-02-23

Customer ID : Cement Concrete Pavement - Ward No 07, D.pillapa layout-sri guru #05 house road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/03/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	150.33 X 149.31 X 150.99	22446	8.888	745.5	33.2	32.8
2	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	149.09 X 151.36 X 151.83	22566	8.716	724.5	32.1	
3	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	150.19 X 151.52 X 150.25	22757	8.272	751.5	33.0	

* The results obtained are satisfactory as per standard requirements.

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-24

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Format No: CP/TF/01

TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID	:	CP-2023-01-14-14 **Date: 28/02/2023**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Customer ID	:	Cement Concrete Pavement - Ward No 07, D.pillapa layout-sri guru #05 house road
Sample Type /Size	:	150X150X150 mm
Sample grade/Age	:	M30 / 7 Days Compressive Strength
Reference to BIS codes	:	IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5
Date of test	:	28/02/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	150.70 X 151.37 X 150.98	22812	8.340	587 2	25 7	25.7
2	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	151.75 X 151.22 X 150.85	22947	8.613	617.9	26.9	
3	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	28/02/2023	149.22 X 149.59 X 151.59	22322	8.244	548.6	24 6	

* The results obtained are satisfactory as per standard requirements.

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Technical Manager

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TEST REPORT OF CEMENT CONCRETE CUBES

Lab ID : **CP-2023-01-14-14** **Date: 21/03/2023**

Project Name : Package-3. Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer's Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 24-02-23

Customer ID : Cement Concrete Pavement - Ward No 07, D.pillapa layout-sri guru #05 house road

Sample Type /Size : 150X150X150 mm

Sample grade/Age : M30 / 28 Days Compressive Strength

Reference to BIS codes : IS: 516 - 1959 (RA 2018) Methods of Tests for Strength of Concrete Cl.5

Date of test : 21/03/2023

Sl. No.	Identification Mark	Grade of concrete	Date of Casting	Date of Testing	Dimension of the Specimen (mm)	Cross sectional area (Sq.mm)	Weight of the sample (kg)	Failure Load (KN)	Compressive strength (N/mm^2)	Average Compressive Strength (N/mm^2)
1	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	150.21 X 149.06 X 151.61	22390	8.453	755.5	33.7	33.5
2	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	149.15 X 150.00 X 150.97	22373	8.615	738.2	33.0	
3	Cement Concrete Pavement - Ward No 07, D pillapa layout-sri guru #05 house road	M30	21/02/2023	21/03/2023	149.41 X 150.32 X 149.41	22459	8.650	757.9	33.7	

* The results obtained are satisfactory as per standard requirements

ಸಹಾಯಕ ಅಭಿಯಂತರರು
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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 16-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	14-02-23
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	14-02-23
Oven Dry Weight	:	11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	315	315	2.9	97.1	95-100
22.4	2259	2574	23.4	76.6	60-80
11.2	2179	4753	43.2	56.8	40-60
4.75	2251	7004	63.7	36.3	25-40
2.36	1621	8625	78.4	21.6	15-30
0.6	623	9248	84.1	15.9	8-22
0.075	1338	10586	96.2	3.8	0-5

* The results obtained are satisfactory as per standard requirements.

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ಬಿ.ಬಿ.ಎಂ.ಪ, ಬೆಂಗಳೂರು-26

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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 16-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	14-02-23
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	14-02-23
Oven Dry Weight	:	11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	302	302	2.7	97.3	95-100
22.4	3644	3946	35.9	64.1	60-80
11.2	2047	5993	54.5	45.5	40-60
4.75	1985	7978	72.5	27.5	25-40
2.36	1165	9143	83.1	16.9	15-30
0.6	769	9912	90.1	9.9	8-22
0.075	702	10614	96.5	3.5	0-5

* The results obtained are satisfactory as per standard requirements.

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2023-01-14-14**	**Date: 16-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.	
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013	
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22	
Date of Receipt	:	14-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	14-02-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	301.3	301.3
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.2	73.8
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	227.6	227.1
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	0.4
5	Aggregate impact value	(B/A)*100	24.3	24.5
6	Aggregate impact value (Mean of two tests)	Pecentage	24.4	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	CP-RW-2023-01-14-14	Date: 16-02-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.	
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013	
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22	
Date of Receipt	:	14-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	14-02-23	

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	301.3	301.3
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.2	73.8
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	227.6	227.1
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.5	0.4
5	Aggregate impact value	(B/A)*100	24.3	24.5
6	Aggregate impact value (Mean of two tests)	Pecentage	24.4	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 16-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	14-02-23
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	14-02-23

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.5%	
Combined Flakiness and Elongation Index for WMM	25.3%	

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR WMM

Lab ID	:	CP-RW-2023-01-14-14 Date: 20-02-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	16-02-23
Type of Mix	:	WMM (Wet Mix Macadam)
Date of test	:	16-02-23
Oven Dry Weight	:	11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	295	295	2.7	97.3	95-100
22.4	2365	2660	24.2	75.8	60-80
11.2	1967	4627	42.1	57.9	40-60
4.75	2289	6916	62.9	37.1	25-40
2.36	1854	8770	79.7	20.3	15-30
0.6	963	9733	88.5	11.5	8-22
0.075	1067	10800	98.2	1.8	0-5

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR WMM

Lab ID : **CP-RW-2023-01-14-14** **Date: 20-02-23**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111.
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Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 16-02-23

Type of Mix : WMM (Wet Mix Macadam)

Date of test : 16-02-23

Oven Dry Weight : 11000 Grams

IS Sieve Size(mm)	Weight Retained (gm)	Cumulative Weight Retained (gm)	% Cumulative Weight Retained	% Passing	Spec.I.Vide Table 400.13 MORTH Specification
53	0	0	0.0	100.0	100
45	325	325	3.0	97.0	95-100
22.4	3488	3813	34.7	65.3	60-80
11.2	2055	5868	53.3	46.7	40-60
4.75	2014	7882	71.7	28.3	25-40
2.36	1011	8893	80.8	19.2	15-30
0.6	645	9538	86.7	13.3	8-22
0.075	1021	10559	96.0	4.0	0-5

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	CP-RW-2023-01-14-14	Date: 20-02-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.	
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013	
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22	
Date of Receipt	:	16-02-23	
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)	
Date of test	:	16-02-23	

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	12.1%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	12.8%	
Combined Flakiness and Elongation Index for WMM	24.9%	

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Date: 27-02-23

Lab ID	:	CP-RW-2023-01-14-14
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Type of Mix	:	DBM-Plant (Dense Bituminous Macadam)
Date of test	:	24-02-23
Weight of Sample	:	5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10 (grading -2)
37.5	0	0	0	100	100
26.5	250	250	5.00	95.00	90-100
19	350	600	12.00	88.00	71-95
13.2	450	1050	21.00	79.00	56-80
4.75	1750	2800	56.00	44.00	38-54
2.36	400	3200	64.00	36.00	28-42
0.3	1350	4550	91.00	9.00	7-21
0.075	250	4800	96.00	4.00	2-8
PAN	200	5000	0.00	0	0

* The results obtained are satisfactory as per standard requirements.

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE BITUMINOUS MACADAM

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 27-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Type of Mix	:	DBM (Dense Bituminous Macadam)
Date of test	:	24-02-23

Table 500-6 : Physical Requirements fo Coarse Aggregate for Dense Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	8.0	Combined Flakiness & Elongation Index for DBM is Maximum 35%	IS:2386 Part I
	Elongation Index	9.0		
Strength	Aggregate Impact Value	18.0	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.58	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.38	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 27-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Type of Mix	:	DBM (Dense Bituminous Mecadam)
Date of test	:	24-02-23

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.29	11.82	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 27-02-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	24-02-23
Type of Mix	:	DBM(Dense Bitumnous Macadam)
Date of test	:	24-02-23

Type of Binder	:	60/70
% of Binder Used	:	4.5%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	9.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part I) 1963 (RA2011)

Lab ID	:	CP-RW-2023-01-14-14	**Date: 07-03-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.	
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout. Ramachandrapura, Bangalore-560013	
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22	
Date of Receipt	:	06-03-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	Ward -06 , Hegade nagar, 11th Cross Road	
Date of test	:	06-03-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479.5	479
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.50	4.60
7	Average percentage	%	4.55	

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ, ಬೆಂಗಳೂರು-26

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Lab ID : CP-RW-2023-01-14-14 **Date: 07-03-23**

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14.5	14.5	3.02	97.0	90-100
19	24	38.5	8.03	92.0	71-95
13.2	120	158.5	33.06	66.9	56-80
4.75	96	254.5	53.08	46.9	38-54
2.36	80	334.5	69.76	30.2	28-42
0.3	62.5	397	82.79	17.2	7-21
0.075	52	449	93.64	6.4	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	14	14	2.92	97.1	90-100
19	24	38	7.93	92.1	71-95
13.2	120	158	32.99	67.0	56-80
4.75	96	254	53.03	47.0	38-54
2.36	78	332	69.31	30.7	28-42
0.3	62	394	82.25	17.7	7-21
0.075	52	446	93.11	6.9	2-8

* The results obtained are satisfactory as per standard requirements.

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-26

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part I) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-01-14-14**	**Date: 08-03-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.	
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013	
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22	
Date of Receipt	:	07-03-23	
Type of Mix	:	DBM (Dense Bituminous Macadam)	
Source of Sample	:	Ward -06 , Hegade nagar , 13th Cross Road	
Date of test	:	07-03-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479	478.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.60	4.70
7	Average percentage	%	4.65	

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
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Lab ID : CP-RW-2023-01-14-14 Date: 08-03-23

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	16	16	3.34	96.7	90-100
19	20	36	7.52	92.5	71-95
13.2	130	166	34.66	65.3	56-80
4.75	100	266	55.53	44.5	38-54
2.36	60	326	68.06	31.9	28-42
0.3	60	386	80.58	19.4	7-21
0.075	55	441	92.07	7.9	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	15	15	3.13	96.9	90-100
19	28	43	8.99	91.0	71-95
13.2	115	158	33.02	67.0	56-80
4.75	94	252	52.66	47.3	38-54
2.36	75	327	68.34	31.7	28-42
0.3	64	391	81.71	18.3	7-21
0.075	53	444	92.79	7.2	2-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 29-03-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	28-03-23
Type of Mix	:	DBM (Dense Bituminous Macadam)
Source of Sample	:	Ward -06 ,vidya sagar layout Preethi wood Main Road
Date of test	:	28-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	479.5	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.50	4.50
7	Average percentage	%	4.50	

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Lab ID : CP-RW-2023-01-14-14 Date: 29-03-23

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	23	23	4.80	95.2	90-100
19	98	121	25.23	74.8	71-95
13.2	75	196	40.88	59.1	56-80
4.75	88	284	59.23	40.8	38-54
2.36	55	339	70.70	29.3	28-42
0.3	81	420	87.59	12.4	7-21
0.075	30	450	93.85	6.2	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	35	35	7.30	92.7	90-100
19	84	119	24.82	75.2	71-95
13.2	85	204	42.54	57.5	56-80
4.75	81	285	59.44	40.6	38-54
2.36	52	337	70.28	29.7	28-42
0.3	76	413	86.13	13.9	7-21
0.075	40	453	94.47	5.5	2-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR DBM (IS 2386:(Part 1) 1963 (RA2011)

Lab ID : CP-RW-2023-01-14-14 **Date: 31-03-23**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go SI No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go SI No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 30-03-23

Type of Mix : DBM (Dense Bituminous Macadam)

Source of Sample : Ward -07 ,Vinayaka Layout- Opp Union Bank Road 4th Cross Road

Date of test : 30-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	478.5	479.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	4.70	4.50
7	Average percentage	%	4.60	

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ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-26

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Lab ID : CP-RW-2023-01-14-14

Date: 31-03-23

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 478.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	32	32	6.69	93.3	90-100
19	86	118	24.66	75.3	71-95
13.2	82	200	41.80	58.2	56-80
4.75	84	284	59.35	40.6	38-54
2.36	54	338	70.64	29.4	28-42
0.3	78	416	86.94	13.1	7-21
0.075	28	444	92.79	7.2	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 479.5

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	25	25	5.21	94.8	90-100
19	99	124	25.86	74.1	71-95
13.2	75	199	41.50	58.5	56-80
4.75	82	281	58.60	41.4	38-54
2.36	42	323	67.36	32.6	28-42
0.3	80	403	84.05	16.0	7-21
0.075	40	443	92.39	7.6	2-8

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2007)

Lab ID : CP-RW-2023-01-14-14 **Date: 03-03-23**

Project Name : Package-3. Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109.110.111.
Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish. No:12. Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 01-03-23

Type of Mix : BC-Plant (Bituminous Concrete)

Date of test : 01-03-23

Oven Dry Weight : 5000 Grams

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-17(grading-2)
19	0	0	0.0	100.0	100
13.2	89	89	1.8	98.2	90-100
9.5	702	791	15.8	84.2	70-88
4.75	895	1686	33.7	66.3	53-71
2.36	587	2273	45.5	54.5	42-58
1.18	492	2765	55.3	44.7	34-48
0.6	503	3268	65.4	34.6	26-38
0.3	528	3796	75.9	24.1	18-28
0.15	458	4254	85.1	14.9	12-20
0.075	350	4604	92.1	7.9	4-10
PAN	396	5000	100	0.0	0

* The results obtained are satisfactory as per standard requirements.

ನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

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ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 04-03-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	01-03-23
Type of Mix	:	BC(Bitumenous Concrete)
Date of test	:	01-03-23

Type of Binder	:	60/70
% of Binder Used	:	5.4%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0=8 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.5	1.5	98.3	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ, ಬೆಂಗಳೂರು-26

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PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR BITUMINOUS CONCRETE

Lab ID	:	CP-RW-2023-01-14-14 **Date: 04-03-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	01-03-23
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	01-03-23

Table 500-16 : Physical Requirements fo Coarse Aggregate for Bituminous Concrete

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	12.4	Combined Flakiness & Elongation Index for BC is Maximum 35%	IS:2386 Part I
	Elongation Index	11.8		
Strength	Aggregate Impact Value	22.1	Maximum 24%	IS:2386 Part IV
Specific gravity	Specific gravity	2.68	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.21	Maximum 2%	IS:2386 Part III

* The results obtained are satisfactory as per standard requirements.

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ಜ್ಞಾನಭಾರತಿ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-56

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 04-03-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	01-03-23
Type of Mix	:	BC (Bituminous Concrete)
Date of test	:	01-03-23

The results of the tests conducted on the Bituminous Concrete mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.14	11.13	10KN(min)
2	Marshal flow at 60°C, mm	3.52	3.51	2-4
3	Percent air Voids	4.82	4.83	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.28	14.26	13-15
5	Percent Voids filled with Bitumen(VFB %)	71.87	71.63	65-75
6	Density, g/cc	2.25	2.26	–

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	**CP-RW-2023-01-14-14** **Date: 15-04-23**
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout. Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	14-04-23
Type of Mix	:	BC (Bituminous Concrete)
Source of Sample	:	Ward -06 , Hegade nagar , 11th Cross Road
Date of test	:	14-04-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.50
7	Average percentage	%	5.55	

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Lab ID : CP-RW-2023-01-14-14 Date: 15-04-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	73	79	16.7	83.3	70-88
4.75	115	194	40.9	59.1	53-71
2.36	70	264	55.7	44.3	42-58
1.18	32	296	62.4	37.6	34-48
0.6	20	316	66.7	33.3	26-38
0.3	54	370	78.1	21.9	18-28
0.15	32	402	84.8	15.2	12-20
0.075	42	444	93.7	6.3	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	73	81	17.1	82.9	70-88
4.75	110	191	40.3	59.7	53-71
2.36	72	263	55.4	44.6	42-58
1.18	29	292	61.5	38.5	34-48
0.6	13	305	64.3	35.7	26-38
0.3	49	354	74.6	25.4	18-28
0.15	45	399	84.1	15.9	12-20
0.075	40	439	92.5	7.5	4-10

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14 **Date: 29-04-23**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 28-04-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward -06 , Hegade nagar , 13th Cross Road

Date of test : 28-04-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.60
7	Average percentage	%	5.50	

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Lab ID : CP-RW-2023-01-14-14 Date: 29-04-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	10	10	2.1	97.9	90-100
9.5	78	88	18.5	81.5	70-88
4.75	125	213	44.8	55.2	53-71
2.36	55	268	56.4	43.6	42-58
1.18	29	297	62.5	37.5	34-48
0.6	15	312	65.7	34.3	26-38
0.3	63	375	78.9	21.1	18-28
0.15	27	402	84.6	15.4	12-20
0.075	32	434	91.4	8.6	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	7	7	1.5	98.5	90-100
9.5	68	75	15.8	84.2	70-88
4.75	105	180	38.0	62.0	53-71
2.36	75	255	53.8	46.2	42-58
1.18	35	290	61.2	38.8	34-48
0.6	35	325	68.6	31.4	26-38
0.3	57	382	80.6	19.4	18-28
0.15	24	406	85.7	14.3	12-20
0.075	32	438	92.4	7.6	4-10

* The results obtained are satisfactory as per standard requirements.

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ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬೆಂಗಳೂರು

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-04-14 Date: 10-03-23

Project Name : Package-3. Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 09-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Akashvani Layout Cross Road 1

Date of test : 09-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.40
7	Average percentage	%	5.45	

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Lab ID : CP-RW-2023-01-14-04

Date: 10-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	69	81	17.1	82.9	70-88
4.75	132	213	44.9	55.1	53-71
2.36	48	261	55.0	45.0	42-58
1.18	32	293	61.7	38.3	34-48
0.6	14	307	64.7	35.3	26-38
0.3	72	379	79.9	20.1	18-28
0.15	24	403	84.9	15.1	12-20
0.075	35	438	92.3	7.7	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	14	14	2.9	97.1	90-100
9.5	75	89	18.7	81.3	70-88
4.75	118	207	43.6	56.4	53-71
2.36	58	265	55.8	44.2	42-58
1.18	30	295	62.1	37.9	34-48
0.6	25	320	67.4	32.6	26-38
0.3	50	370	77.9	22.1	18-28
0.15	22	392	82.5	17.5	12-20
0.075	45	437	92.0	8.0	4-10

* The results obtained are satisfactory as per standard requirements.

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-26

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2023-01-14-14 Date: 23-03-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	21-03-23
Type of Mix	:	BC (Bituminous Concrete)
Source of Sample	:	Ward- 06 Govt High School - 1st Cross Road, Kempegowda Road
Date of test	:	21-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.60
7	Average percentage	%	5.60	

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ರಾಜರಾಜೇಶ್ವರಿನಗರ ಉಪ ವಿಭಾಗ.

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ರಾಜರಾಜೇಶ್ವರಿನಗರ ಉಪ ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ, ಬೆಂಗಳೂರು-98

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
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Authorized Signatory
Technical Manager

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Date: 24-03-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 21-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, P&T Layout 2nd Cross Road

Date of test : 21-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.50	5.50
7	Average percentage	%	5.50	

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬೆಂಗಳೂರು-೭೫

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Lab ID : CP-RW-2023-01-14-14

Date: 24-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	75	83	17.5	82.5	70-88
4.75	105	188	39.6	60.4	53-71
2.36	80	268	56.5	43.5	42-58
1.18	36	304	64.1	35.9	34-48
0.6	15	319	67.2	32.8	26-38
0.3	56	375	79.0	21.0	18-28
0.15	25	400	84.3	15.7	12-20
0.075	39	439	92.5	7.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	56	62	13.1	86.9	70-88
4.75	110	172	36.2	63.8	53-71
2.36	75	247	52.1	47.9	42-58
1.18	39	286	60.3	39.7	34-48
0.6	45	331	69.8	30.2	26-38
0.3	45	376	79.2	20.8	18-28
0.15	25	401	84.5	15.5	12-20
0.075	42	443	93.4	6.6	4-10

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ ಬೆಂಗಳೂರು-26

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14 **Date: 25-03-23**

Project Name : Package-3. Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 24-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Muneshwara Layout from Rachenahalli Main road 8th Cross Road

Date of test : 24-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.50
7	Average percentage	%	5.55	

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part I) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14 **Date: 25-03-23**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 24-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06. Bharath Nagar Trithwa Ashram Opp Road

Date of test : 24-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.40
7	Average percentage	%	5.40	

ಸಹಾಯಕ ಅಭಿಯಂತರರು
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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-26

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Lab ID : CP-RW-2023-01-14-14 Date: 25-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	15	15	3.2	96.8	90-100
9.5	72	87	18.3	81.7	70-88
4.75	102	189	39.8	60.2	53-71
2.36	66	255	53.7	46.3	42-58
1.18	38	293	61.7	38.3	34-48
0.6	25	318	66.9	33.1	26-38
0.3	45	363	76.4	23.6	18-28
0.15	30	393	82.7	17.3	12-20
0.075	39	432	90.9	9.1	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	17	17	3.6	96.4	90-100
9.5	77	94	19.8	80.2	70-88
4.75	105	199	41.9	58.1	53-71
2.36	65	264	55.6	44.4	42-58
1.18	42	306	64.4	35.6	34-48
0.6	33	339	71.4	28.6	26-38
0.3	35	374	78.7	21.3	18-28
0.15	29	403	84.8	15.2	12-20
0.075	34	437	92.0	8.0	4-10

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ ಬೆಂಗಳೂರು-26

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Technical Manager

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End of Report

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Lab ID : CP-RW-2023-01-14-14

Date: 27-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	15	15	3.2	96.8	90-100
9.5	72	87	18.3	81.7	70-88
4.75	102	189	39.8	60.2	53-71
2.36	66	255	53.7	46.3	42-58
1.18	38	293	61.7	38.3	34-48
0.6	25	318	67.0	33.0	26-38
0.3	45	363	76.5	23.5	18-28
0.15	30	393	82.8	17.2	12-20
0.075	39	432	91.0	9.0	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	17	17	3.6	96.4	90-100
9.5	77	94	19.8	80.2	70-88
4.75	105	199	41.9	58.1	53-71
2.36	65	264	55.6	44.4	42-58
1.18	42	306	64.5	35.5	34-48
0.6	33	339	71.4	28.6	26-38
0.3	35	374	78.8	21.2	18-28
0.15	29	403	84.9	15.1	12-20
0.075	34	437	92.1	7.9	4-10

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ ಬೆಂಗಳೂರು-26

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14 **Date: 27-03-23**

Project Name : Package-3. Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109.110.111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 25-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Anjanadri Layout 2nd Cross Road

Date of test : 25-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.60	5.60
7	Average percentage	%	5.60	

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2023-01-14-14	Date: 27-03-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.	
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013	
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22	
Date of Receipt	:	25-03-23	
Type of Mix	:	BC (Bituminous Concrete)	
Source of Sample	:	Ward- 06, Anjanadri Layout 2nd Cross Road	
Date of test	:	25-03-23	

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.60	5.60
7	Average percentage	%	5.60	

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

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Lab ID : CP-RW-2023-01-14-14 Date: 27-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	11	11	2.3	97.7	90-100
9.5	78	89	18.8	81.2	70-88
4.75	101	190	40.1	59.9	53-71
2.36	79	269	56.8	43.2	42-58
1.18	31	300	63.3	36.7	34-48
0.6	23	323	68.1	31.9	26-38
0.3	55	378	79.7	20.3	18-28
0.15	28	406	85.7	14.3	12-20
0.075	25	431	90.9	9.1	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	70	82	17.3	82.7	70-88
4.75	92	174	36.7	63.3	53-71
2.36	91	265	55.9	44.1	42-58
1.18	35	300	63.3	36.7	34-48
0.6	38	338	71.3	28.7	26-38
0.3	35	373	78.7	21.3	18-28
0.15	34	407	85.9	14.1	12-20
0.075	22	429	90.5	9.5	4-10

* The results obtained are satisfactory as per standard requirements.

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ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

Lab ID : CP-RW-2023-01-14-14

Date: 27-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.5	62.5	53-71
2.36	88	266	56.1	43.9	42-58
1.18	29	295	62.2	37.8	34-48
0.6	11	306	64.5	35.5	26-38
0.3	46	352	74.2	25.8	18-28
0.15	45	397	83.7	16.3	12-20
0.075	55	452	95.3	4.7	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.6	62.4	53-71
2.36	88	266	56.1	43.9	42-58
1.18	29	295	62.2	37.8	34-48
0.6	11	306	64.6	35.4	26-38
0.3	46	352	74.3	25.7	18-28
0.15	45	397	83.8	16.2	12-20
0.075	50	447	94.3	5.7	4-10

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

CIVIL Pro Sig..... Date..... BANGALORE

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R RUDRAPRASAD
Authorized Signatory
Technical Manager

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-26

End of Report

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works **Date: 27-03-23**
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 25-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Anjanadri Layout 4thCross Road

Date of test : 25-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.50
7	Average percentage	%	5.50	

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ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ, ಬೆಂಗಳೂರು-26

CIVIL Pro Sig..... Date..... BANGALORE

FOR CIVIL Pro.
R RUDRAPRASAD
Authorized Signatory
Technical Manager

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HIGHWAY & BUILDING MATERIALS TESTING LABORATORY | STRUCTURAL | ENVIRONMENTAL WATER TESTING | GEO TECHNICAL | PROJECT MANAGEMENT | SURVEYING SERVICES

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Lab ID : CP-RW-2023-01-14-14

Date: 27-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	16	16	3.4	96.6	90-100
9.5	59	75	15.8	84.2	70-88
4.75	135	210	44.3	55.7	53-71
2.36	59	269	56.7	43.3	42-58
1.18	25	294	62.0	38.0	34-48
0.6	9	303	63.9	36.1	26-38
0.3	59	362	76.3	23.7	18-28
0.15	33	395	83.2	16.8	12-20
0.075	49	444	93.6	6.4	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	70	76	16.0	84.0	70-88
4.75	102	178	37.5	62.5	53-71
2.36	83	261	55.0	45.0	42-58
1.18	39	300	63.2	36.8	34-48
0.6	12	312	65.8	34.2	26-38
0.3	48	360	75.9	24.1	18-28
0.15	39	399	84.1	15.9	12-20
0.075	39	438	92.3	7.7	4-10

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14 **Date: 28-03-23**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 26-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Chirayu Hospital Road

Date of test : 27-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.60	5.60
7	Average percentage	%	5.60	

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ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬೆಂಗಳೂರು-೭೬

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Lab ID : CP-RW-2023-01-14-14 Date: 28-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	18	18	3.8	96.2	90-100
9.5	55	73	15.4	84.6	70-88
4.75	134	207	43.7	56.3	53-71
2.36	58	265	55.9	44.1	42-58
1.18	22	287	60.5	39.5	34-48
0.6	11	298	62.9	37.1	26-38
0.3	62	360	75.9	24.1	18-28
0.15	38	398	84.0	16.0	12-20
0.075	52	450	94.9	5.1	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	19	19	4.0	96.0	90-100
9.5	52	71	15.0	85.0	70-88
4.75	135	206	43.5	56.5	53-71
2.36	59	265	55.9	44.1	42-58
1.18	21	286	60.3	39.7	34-48
0.6	12	298	62.9	37.1	26-38
0.3	65	363	76.6	23.4	18-28
0.15	42	405	85.4	14.6	12-20
0.075	50	455	96.0	4.0	4-10

* The results obtained are satisfactory as per standard requirements.

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ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-26

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111, Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Date: 28-03-23

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 27-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Afzal layout

Date of test : 27-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.40	5.40
7	Average percentage	%	5.40	

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

Lab ID : CP-RW-2023-01-14-14

Date: 28-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	10	10	2.1	97.9	90-100
9.5	77	87	18.3	81.7	70-88
4.75	98	185	38.9	61.1	53-71
2.36	72	257	54.1	45.9	42-58
1.18	38	295	62.1	37.9	34-48
0.6	22	317	66.7	33.3	26-38
0.3	54	371	78.1	21.9	18-28
0.15	35	406	85.5	14.5	12-20
0.075	25	431	90.7	9.3	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	13	13	2.7	97.3	90-100
9.5	72	85	17.9	82.1	70-88
4.75	95	180	37.9	62.1	53-71
2.36	87	267	56.2	43.8	42-58
1.18	31	298	62.7	37.3	34-48
0.6	29	327	68.8	31.2	26-38
0.3	52	379	79.8	20.2	18-28
0.15	28	407	85.7	14.3	12-20
0.075	25	432	90.9	9.1	4-10

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
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Technical Manager

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works **Date: 30-03-23**
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 29-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Preethi Wood Main Road

Date of test : 29-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.40
7	Average percentage	%	5.45	

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Technical Manager

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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4, 7TH MAIN MALLESWARAM, BANGALORE -3

Lab ID : CP-RW-2023-01-14-84 Date: 30-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	11	11	2.3	97.7	90-100
9.5	78	89	18.8	81.2	70-88
4.75	101	190	40.0	60.0	53-71
2.36	79	269	56.7	43.3	42-58
1.18	31	300	63.2	36.8	34-48
0 6	23	323	68.1	31.9	26-38
0.3	55	378	79.7	20.3	18-28
0.15	28	406	85.6	14.4	12-20
0 075	25	431	90.8	9.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	8	8	1.7	98.3	90-100
9.5	68	76	16.0	84.0	70-88
4.75	115	191	40.2	59.8	53-71
2.36	75	266	56.0	44.0	42-58
1.18	29	295	62.1	37.9	34-48
0 6	15	310	65.3	34.7	26-38
0.3	48	358	75.4	24.6	18-28
0.15	49	407	85.7	14.3	12-20
0 075	36	443	93.3	6.7	4-10

* The results obtained are satisfactory as per standard requirements.

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Authorized Signatory
Technical Manager

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ಬೆಂಗಳೂರು, ಬೆಂಗಳೂರು-26

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Date: 31-03-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 30-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Kaveri Layout

Date of test : 30-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.40
7	Average percentage	%	5.50	

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FOR CIVIL Pro.
R RUDRAPRASAD
Authorized Signatory
Technical Manager

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿಬಿಎಂಪಿ ಬೆಂಗಳೂರು-26

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Lab ID : CP-RW-2023-01-14-14

Date: 31-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	15	15	3.2	96.8	90-100
9.5	85	100	21.1	78.9	70-88
4.75	95	195	41.1	58.9	53-71
2.36	58	253	53.4	46.6	42-58
1.18	36	289	61.0	39.0	34-48
0.6	8	297	62.7	37.3	26-38
0.3	53	350	73.8	26.2	18-28
0.15	48	398	84.0	16.0	12-20
0.075	45	443	93.5	6.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	3	3	0.6	99.4	90-100
9.5	56	59	12.4	87.6	70-88
4.75	121	180	37.9	62.1	53-71
2.36	73	253	53.3	46.7	42-58
1.18	39	292	61.5	38.5	34-48
0.6	12	304	64.0	36.0	26-38
0.3	48	352	74.1	25.9	18-28
0.15	40	392	82.5	17.5	12-20
0.075	51	443	93.3	6.7	4-10

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಧೀಕ್ಷಕರು
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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-26

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works — Date: 03-04-23
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111, Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 01-04-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Kalavari Betta Road

Date of test : 01-04-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.60	5.40
7	Average percentage	%	5.50	

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ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬೆಂಗಳೂರು-26

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Technical Manager

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

Lab ID : CP-RW-2023-01-14-14 Date: 03-04-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	15	15	3.2	96.8	90-100
9.5	85	100	21.1	78.9	70-88
4.75	95	195	41.1	58.9	53-71
2.36	58	253	53.4	46.6	42-58
1.18	36	289	61.0	39.0	34-48
0.6	8	297	62.7	37.3	26-38
0.3	53	350	73.8	26.2	18-28
0.15	48	398	84.0	16.0	12-20
0.075	45	443	93.5	6.5	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	3	3	0.6	99.4	90-100
9.5	56	59	12.4	87.6	70-88
4.75	121	180	37.9	62.1	53-71
2.36	73	253	53.3	46.7	42-58
1.18	39	292	61.5	38.5	34-48
0.6	12	304	64.0	36.0	26-38
0.3	48	352	74.1	25.9	18-28
0.15	40	392	82.5	17.5	12-20
0.075	51	443	93.3	6.7	4-10

* The results obtained are satisfactory as per standard requirements.

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Authorized Signatory
Technical Manager

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Date: 03-05-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 02-05-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Hegde nagar 4th Cross Road

Date of test : 02-05-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.40
7	Average percentage	%	5.45	

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Lab ID : CP-RW-2023-01-14-14

Date: 03-05-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	16	16	3.4	96.6	90-100
9.5	59	75	15.8	84.2	70-88
4.75	135	210	44.3	55.7	53-71
2.36	59	269	56.7	43.3	42-58
1.18	25	294	62.0	38.0	34-48
0.6	9	303	63.9	36.1	26-38
0.3	59	362	76.3	23.7	18-28
0.15	33	395	83.2	16.8	12-20
0.075	49	444	93.6	6.4	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	70	76	16.0	84.0	70-88
4.75	102	178	37.5	62.5	53-71
2.36	83	261	54.9	45.1	42-58
1.18	39	300	63.2	36.8	34-48
0.6	12	312	65.7	34.3	26-38
0.3	48	360	75.8	24.2	18-28
0.15	39	399	84.0	16.0	12-20
0.075	39	438	92.2	7.8	4-10

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works **Date: 04-05-23**
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 03-05-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward- 06, Sai Hospital Road 2nd Main Road from 8th Cross Road

Date of test : 03-05-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	474
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.50	5.60
7	Average percentage	%	5.55	

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Lab ID : CP-RW-2023-01-14-14

Date: 04-05-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	11	11	2.3	97.7	90-100
9.5	78	89	18.8	81.2	70-88
4.75	101	190	40.0	60.0	53-71
2.36	79	269	56.7	43.3	42-58
1.18	31	300	63.2	36.8	34-48
0.6	23	323	68.1	31.9	26-38
0.3	55	378	79.7	20.3	18-28
0.15	28	406	85.6	14.4	12-20
0.075	25	431	90.8	9.2	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	70	82	17.3	82.7	70-88
4.75	92	174	36.7	63.3	53-71
2.36	91	265	55.9	44.1	42-58
1.18	35	300	63.3	36.7	34-48
0.6	38	338	71.3	28.7	26-38
0.3	35	373	78.7	21.3	18-28
0 15	34	407	85.9	14.1	12-20
0.075	22	429	90.5	9.5	4-10

* The results obtained are satisfactory as per standard requirements.

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID	:	CP-RW-2023-01-14-14
		Date: 02-03-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	01-03-23
Type of Mix	:	BC (Bituminous Concrete)
Source of Sample	:	Ward -07 ,Vinayaka Layout- Opp Union Bank Road 4th Cross Road
Date of test	:	01-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474.5	475
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.50	5.40
7	Average percentage	%	5.45	

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Lab ID : CP-RW-2023-01-14-14 Date: 02-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	4	4	0.8	99.2	90-100
9.5	62	66	13.9	86.1	70-88
4.75	112	178	37.5	62.5	53-71
2.36	88	266	56.1	43.9	42-58
1.18	29	295	62.2	37.8	34-48
0.6	11	306	64.5	35.5	26-38
0.3	46	352	74.2	25.8	18-28
0.15	45	397	83.7	16.3	12-20
0.075	55	452	95.3	4.7	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	13	13	2.7	97.3	90-100
9.5	72	85	17.9	82.1	70-88
4.75	95	180	37.9	62.1	53-71
2.36	87	267	56.2	43.8	42-58
1.18	31	298	62.7	37.3	34-48
0.6	29	327	68.8	31.2	26-38
0.3	52	379	79.8	20.2	18-28
0.15	28	407	85.7	14.3	12-20
0.075	25	432	90.9	9.1	4-10

* The results obtained are satisfactory as per standard requirements.

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FOR CIVIL Pro.
R RUDRAPRASAD
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Technical Manager

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part 1) 1963 (RA 2011)

Lab ID : CP-RW-2023-01-14-14

Date: 14-03-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 12-03-23

Type of Mix : BC (Bituminous Concrete)

Source of Sample : Ward -07 , Shabari Nagara 1st Cross Road

Date of test : 13-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	474	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1}$ X 100	5.60	5.50
7	Average percentage	%	5.55	

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Lab ID : CP-RW-2023-01-14-14 Date: 14-03-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 474

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	6	6	1.3	98.7	90-100
9.5	75	81	17.1	82.9	70-88
4.75	120	201	42.4	57.6	53-71
2.36	67	268	56.5	43.5	42-58
1.18	32	300	63.3	36.7	34-48
0.6	15	315	66.5	33.5	26-38
0.3	38	353	74.5	25.5	18-28
0.15	29	382	80.6	19.4	12-20
0.075	63	445	93.9	6.1	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	3	3	0.6	99.4	90-100
9.5	56	59	12.4	87.6	70-88
4.75	121	180	37.9	62.1	53-71
2.36	73	253	53.3	46.7	42-58
1.18	39	292	61.5	38.5	34-48
0.6	12	304	64.1	35.9	26-38
0.3	48	352	74.2	25.8	18-28
0.15	40	392	82.6	17.4	12-20
0.075	51	443	93.4	6.6	4-10

* The results obtained are satisfactory as per standard requirements.

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TEST RESULTS OF BITUMEN BINDAR CONTENT AND GRADATION FOR BC
IS 2386 (Part I) 1963 (RA 2011)

Lab ID	:	CP-RW-2023-01-14-14
Project Name	:	Package-3, Includes 5 Works **Date: 01-04-23** Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	31-03-23
Type of Mix	:	BC (Bituminous Concrete)
Source of Sample	:	Ward -07 ,Talacauvery layout (Phadma Tent), Axis bank opposite road
Date of test	:	31-03-23

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	W1	500	500
2	Weight of the sample After extraction	W2	475	474.5
3	Initial weight of Paper	W3	4	4
4	Final weight of Paper	W4	6	6
5	Increase in weight of Filter Paper	W5=W4-W3	2	2
6	Bitumen percentage	$\frac{W1-W2+W5}{W1} \times 100$	5.40	5.50
7	Average percentage	%	5.45	

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

Lab ID : CP-RW-2023-01-14-84 Date: 01-04-23

AFTER EXTRACTION - Trail-1

Total Weight of the Sample(gm) : 475

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	12	12	2.5	97.5	90-100
9.5	69	81	17.1	82.9	70-88
4.75	132	213	44.8	55.2	53-71
2.36	48	261	54.9	45.1	42-58
1.18	32	293	61.7	38.3	34-48
0.6	14	307	64.6	35.4	26-38
0.3	72	379	79.8	20.2	18-28
0.15	24	403	84.8	15.2	12-20
0.075	35	438	92.2	7.8	4-10

AFTER EXTRACTION - Trail-2

Total Weight of the Sample(gm) : 474.5

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Secified limits as per MORTH specification table 500-23(grading-2)
19	0	0	0.0	100.0	100
13.2	13	13	2.7	97.3	90-100
9.5	72	85	17.9	82.1	70-88
4.75	95	180	37.9	62.1	53-71
2.36	87	267	56.3	43.7	42-58
1.18	31	298	62.8	37.2	34-48
0.6	29	327	68.9	31.1	26-38
0.3	52	379	79.9	20.1	18-28
0.15	28	407	85.8	14.2	12-20
0.075	25	432	91.0	9.0	4-10

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON BITUMEN

Format No: CP/TF/01

Lab ID	:	CP-RW-2023-01-14-14
		Date: 22-02-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	20-02-23
Sample Type	:	Bitumen
Reference to BIS codes	:	IS: 1201-2021, IS: 1202-1220(1978) (Reaffirmed-2019)
Date of test	:	20-02-23

Test Results

Sl.no	Name of Test	Result	Requirements as per IS:73-2013
1	Penetration at 25°C , in 1/10th mm	**62**	60 to 70
2	Softening Point, °C	**50.4**	Min. 40°C
3	Ductility, cm	**100**	Min. 75cm
4	Flash point, °C	**310**	Min. 220°C
	Fire point, °C	**322**	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14

Date: 15-04-23

Project Name : Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 14-04-23

Type of Mix : Tack coat

Date of test : 14-04-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works Date: 29-04-23
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 28-04-23

Type of Mix : Tack coat

Date of test : 28-04-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.801	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.021	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.233	0.256
7	Average	Kg/sq.m	0.244	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works Date: 10-03-23
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 09-03-23

Type of Mix : Tack coat

Date of test : 09-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.768
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.02
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.222
7	Average	Kg/sq.m	0.239	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Date: 23-03-23

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 21-03-23

Type of Mix : Tack coat

Date of test : 21-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.801	0.769
5	Weight of tack Coat (d=c-b)	Kg	0.021	0.021
6	Rate of spread of tack coat	Kg/sq.m	0.233	0.233
7	Average	Kg/sq.m	0.233	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ ಬೆಂಗಳೂರು-26

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14

Project Name : Package-3, Includes 5 Works Date: 25-03-23
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 24-03-23

Type of Mix : Tack coat

Date of test : 24-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.801	0.77
5	Weight of tack Coat (d=c-b)	Kg	0.021	0.022
6	Rate of spread of tack coat	Kg/sq.m	0.233	0.244
7	Average	Kg/sq.m	0.239	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

CIVIL Pro Sig..... Date..... BANGALORE

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Authorized Signatory
Technical Manager

ಸಹಾಯಕ ಕಾರ್ಯನಿರ್ವಾಹಕ ಅಭಿಯಂತರರು
ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-26

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : **CP-RW-2023-01-14-14** **Date: 27-03-23**

Project Name : Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 25-03-23

Type of Mix : Tack coat

Date of test : 25-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14 Date: 28-03-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 26-03-23

Type of Mix : Tack coat

Date of test : 27-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

CIVIL Pro Sig..... Date.....

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14 Date: 28-03-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 27-03-23

Type of Mix : Tack coat

Date of test : 27-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14 **Date: 30-03-23**

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 29-03-23

Type of Mix : Tack coat

Date of test : 29-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.801	0.769
5	Weight of tack Coat (d=c-b)	Kg	0.021	0.021
6	Rate of spread of tack coat	Kg/sq.m	0.233	0.233
7	Average	Kg/sq.m	0.233	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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4, 7TH MAIN MALLESWARAM, BANGALORE -3

DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14 Date: 31-03-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 30-03-23

Type of Mix : Tack coat

Date of test : 30-03-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ರಾಜರಾಜೇಶ್ವರಿನಗರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರ
ರಾಜರಾಜೇಶ್ವರಿನಗರ ಉಪ ವಿಭಾಗ
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-24

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14 Date: 03-04-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 01-04-23

Type of Mix : Tack coat

Date of test : 01-04-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.804	0.769
5	Weight of tack Coat (d=c-b)	Kg	0.024	0.021
6	Rate of spread of tack coat	Kg/sq.m	0.267	0.233
7	Average	Kg/sq.m	0.250	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID	:	CP-RW-2023-01-14-14	Date: 03-05-23
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.	
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013	
Customer Reference	:	BBMP/EE/BTP/WO/02/2021-22	
Date of Receipt	:	02-05-23	
Type of Mix	:	Tack coat	
Date of test	:	02-05-23	

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

ಸಹಾಯಕ ಅಭಿಯಂತರರು
ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬ್ಯಾಟರಾಯನಪುರ ಉಪ ವಿಭಾಗ

ಸಹಾಯಕ ಅಭಿಯಂತರರು
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ಬಿ.ಬಿ.ಎಂ.ಪಿ. ಬೆಂಗಳೂರು-26

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Technical Manager

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DETERMINATION OF RATE OF SPREAD TACK COAT

Lab ID : CP-RW-2023-01-14-14 Date: 04-05-23

Project Name : Package-3, Includes 5 Works
Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111. Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113.

Agency : M/s. Ram and Company, Prop. Sri C R Girish, No:12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013

Customer Reference : BBMP/EE/BTP/WO/02/2021-22

Date of Receipt : 03-05-23

Type of Mix : Tack coat

Date of test : 03-05-23

Sl.No	Determination	Unit	TEST 1	TEST 2
1	Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
2	Area of Plate (a)	Sq.mtr	0.09	0.09
3	Initial Wt of empty Plate (b)	Kg	0.78	0.748
4	Final weight of plate after application of tack Coat (c)	Kg	0.803	0.771
5	Weight of tack Coat (d=c-b)	Kg	0.023	0.023
6	Rate of spread of tack coat	Kg/sq.m	0.256	0.256
7	Average	Kg/sq.m	0.256	
8	Specified Limit	Kg/sq.m	0.250 Kg/sq.m	

* The results obtained are satisfactory as per standard requirements.

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TEST REPORT ON THERMOPLASTIC COMPOUND

Date: 11-05-23

Lab ID	:	CP-RW-2023-01-14-14
Project Name	:	Package-3, Includes 5 Works Improvements to Roads and Drains at Thanisandra Dasarahalli Saraipalya and Bharathnagara and Surrounding Area in Ward No 06 Byatarayanapura Sub Division Package-3 (Old Annuxure-2) Go Sl No 109,110,111 Comprehensive Development and Improvements to Roads and Drains Rachenahalli and Surrounding Area in Ward No 6 and 7 Byatarayanapura Sub Division Package-2 (Old Annuxure) Go Sl No 112 and 113
Agency	:	M/s. Ram and Company, Prop. Sri C R Girish, No 12, Patel Pillegowda Layout, Ramachandrapura, Bangalore-560013
Customer's Reference	:	BBMP/EE/BTP/WO/02/2021-22
Date of Receipt	:	06-05-23
Sample Type	:	Thermoplastic Compound
Reference to BIS codes	:	ASTM D36/BS-3262-(Part-I)
Date of test	:	06-05-23

Test Results

Sl.no	Name of Test	Result	Requirements as per Morth 803
1	Colour	White	White/Yellow
2	Softening Point	109°C - 110°C	102.5±9.5°C as Per ASTM D 36
3	Luminance Factor	Sartisfactory	White: Daylight Luminanceat 45-65 Percent min. as per AASHTO M:249. Yellow: Daylight lumunanace at 45-45 percent min. as per AASHTO M 249
4	Cracking Resistance	No Cracks found on application	The Material shall show no Cracks on application
5	Skid Resistance	49	Not Less than 45 as per BS 6044
6	Yellow Index (For White Thermoplastic Plant)	0.08	Not More than 0.12 as per AASHTO M 249
7	Drying Time	13	When Applied at a temperature specified by the manufacture and to the required thickness, the material shall mset to heat traffic in not more than 15 minutes
8	Binder Content % by Weight	21%	White & yellow 18 minutes as per Section 800 in Table 800-9
9	Glass Beads Content % by Weight	30	30-30

* The results obtained are satisfactory as per standard requirements

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Technical Manager

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